

## ABSTRACT

The present invention relates to compositions and methods for assaying homocysteine (Hcy) and thus related moieties, *e.g.*, S-adenosylhomocysteine (SAH) or adenosine. More particularly, assay methods that employ, mutant SAH hydrolase having binding affinity for Hcy, 5 SAH or adenosine but has attenuated catalytic activity, are provided. The modified enzymes and fusion proteins containing the modified enzymes are also provided.